



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4855-1
Job Sheet 170770



Part No: D4855-1

Job Qty: 12 ea

Part Name: Antenna Bracket



Part Weight: 0 lbs

Job Created: 1/19/18

Due Date: 2/7/18

Type: SOLD

Status: Scheduled

Priority: Medium

Job Tracking No:

Created By: Linda Lacelle

Description:

Note: DWG REV A SHEET 1 IPP REV: A NEW ISSUE JFS 13/06/26 VERIFY BY: DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	12 Ea		2/6/18	0.00	0.00	Start Up Machining-3		
100	Bandsaw	12 pcs		2/6/18	0.00	0.34	Bandsaw1		SC 18-01-29
110	CNC Vertical Machining	12 pcs		2/6/18	0.29	10.53	HAAS1-5		SC 18-01-29
130	QC	12 pcs		2/6/18	0.00	0.00	QC8 Machining-3		SC 18-01-30
140	HandFinish	12 pcs		2/6/18	0.00	0.48	HandFinish1		A 18-01-31
150	QC	12 pcs		2/6/18	0.00	0.00	QC7-4		18-02-01
160	Powdercoat	12 pcs		2/7/18	0.00	0.23	Powdercoat1		DES 18-02-01
170	QC	12 pcs		2/7/18	0.00	0.00	QC3		BK 18-02-01
180	Packaging	12 pcs		2/7/18	0.00	0.00	Packaging3-2		11 FEB 05 2018
190	QC21-SA	12 Ea		2/7/18	0.00	0.00	QC21		9-89 8-22 57526

Part Op 100 - CUT BLANK AT 3.000"
Descriptions: 110 - 1-Machine per folio FB200
160 - START TIME: 2:20 Q.V.T. 3000 FINISH: 3:50
M 138462

21 FEB 05 2018

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M6061T6B4.500X4.500	6061-T6 Aluminumbar 4.500" X 4.500"	3 ft (.25 ea)	90-Start up Operation	

FM 138175.0 = 2.25' (9x) (2.312)
5029779 = 0.75' (3x) 5036553

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Antenna Bracket	0.875Inches ± 0.010	0.885 0.865		0.869
2	Antenna Bracket	0.201Inches + 0.005 - 0.001	0.206 0.200	Diameter	0.202
3	Antenna Bracket	0.970Inches ± 0.030	1.000 0.940		0.970
4	Antenna Bracket	0.970Inches ± 0.030	1.000 0.940		0.970
5	Antenna Bracket	1.880Inches ± 0.030	1.910 1.850		1.876
6	Antenna Bracket	3.750Inches ± 0.030	3.780 3.720		3.750
7	Antenna Bracket	0.250Inches ± 0.030	0.280 0.220	Radius	0.250
8	Antenna Bracket	0.257Inches + 0.005 - 0.000	0.262 0.257	Diameter	0.257
9	Antenna Bracket	2.130Inches ± 0.030	2.160 2.100		2.126
10	Antenna Bracket	1.400Inches ± 0.030	1.430 1.370		1.400
11	Antenna Bracket	1.260Inches ± 0.030	1.290 1.230		1.242
12	Antenna Bracket	1.880Inches ± 0.030	1.910 1.850		1.870
13	Antenna Bracket	0.280Inches + 0.006 - 0.001	0.286 0.279	Diameter	0.280
14	Antenna Bracket	0.380Inches ± 0.030	0.410 0.350	Radius	0.380
15	Antenna Bracket	0.380Inches ± 0.030	0.410 0.350	Radius	0.380
16	Antenna Bracket	0.250Inches ± 0.030	0.280 0.220	Radius	0.250
17	Antenna Bracket	0.250Inches ± 0.010	0.260 0.240		0.248
18	Antenna Bracket	2.500Inches ± 0.030	2.530 2.470		2.500
19	Antenna Bracket	0.250Inches ± 0.010	0.260 0.240		0.255
20	Antenna Bracket	4.250Inches ± 0.030	4.280 4.220		4.253
21	Antenna Bracket	0.250Inches ± 0.030	0.280 0.220	Radius	0.250

Plex 1/19/18 10:50 AM dart.lacelle.linda

DQA:

Date:

ml 19 Jun 2019

QA Closed: 19/6/19 Date: JUN 19 2019

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only



Work Order: <u>170770</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS																																																																															
Part No. <u>D4855-1</u>		Rework ☐ Scrap ☒ Use-as-is ☐		Cross tube ☐ Small Fab ☐ Finishing ☒ Composite ☐																																																																															
NCR No. <u>19-7190</u>		Suspected Unapproved ☐		Skid-tube ☐ Machining ☒ Thermoforming ☐ Large Fab ☐																																																																															
Date: <u>18-01-31</u>		Step #: <u>110</u>		QTY Effective: <u>1</u>																																																																															
Description Work Order Deviation				Disposition																																																																															
Dimension 0.250 +/-0.05 is or goes from .241" to .246" off the entire length FAI was calling for .250 +/-0.010 and drawing was calling for .250 +/-0.005 Machinist followed the FAI and thought it was ok.				Machinist is now aware that the drawing dimensions always wins. FAI will be charged to match drawing. Scrap and destroy																																																																															
Root Cause				FAULT CATEGORY																																																																															
<table><tr><td>Environment</td><td>No Re-verification</td><td>Pressure/Forced</td><td>Temperature/Cure</td><td>Power Loss/Surge</td><td>Positioned Wrong</td></tr><tr><td>Design</td><td>☒ Operator (Machinist)</td><td>Bending</td><td>Set-up</td><td>Folio/Program</td><td>Outside Dimensions</td></tr><tr><td>Doc/Data</td><td>Offset/Setup</td><td>Centre Not Concentric</td><td>BOM/Route</td><td>Grain</td><td>Over/Under tolerance</td></tr><tr><td>Equip/Tooling</td><td>Supplier</td><td>Cracks</td><td>Broken/Damage/Defect</td><td>Weld</td><td>Part Incorrect</td></tr><tr><td>Handling/Pre</td><td>Training</td><td>Crimp/Kink/Ripple/Wave</td><td>Inspection Incomplete/Unqualified</td><td>Wrong Stock Pulled</td><td>Part Lost/Missing</td></tr><tr><td>Material</td><td>Use for Testing</td><td>Cuffs</td><td>Contamination</td><td>Out of Sequence</td><td>Part Moved</td></tr><tr><td>Internal Transport</td><td>Poor Information</td><td>Crushing</td><td>Countersink</td><td>Off-set</td><td>Drawing</td></tr><tr><td>Tribal Knowledge</td><td>Rushing</td><td>Heat Treat</td><td>Cut Too Short</td><td>Mislabeled</td><td>Finish</td></tr><tr><td>LOA</td><td>Product Improvement</td><td>Wave/Twist in Tube</td><td>Instructions Incomplete/Unclear</td><td>Fit/Function</td><td>Misread</td></tr><tr><td>Substation</td><td>Process Improvement</td><td>Marks/Chatter</td><td>Drill Holes</td><td>Misaligned/off center</td><td>Turning Sequence</td></tr><tr><td>Past Expiry Date</td><td>Manufacturing Process</td><td></td><td></td><td></td><td></td></tr><tr><td>Misidentified</td><td>Past Due</td><td>OTHER:</td><td></td><td></td><td></td></tr></table>				Environment	No Re-verification	Pressure/Forced	Temperature/Cure	Power Loss/Surge	Positioned Wrong	Design	☒ Operator (Machinist)	Bending	Set-up	Folio/Program	Outside Dimensions	Doc/Data	Offset/Setup	Centre Not Concentric	BOM/Route	Grain	Over/Under tolerance	Equip/Tooling	Supplier	Cracks	Broken/Damage/Defect	Weld	Part Incorrect	Handling/Pre	Training	Crimp/Kink/Ripple/Wave	Inspection Incomplete/Unqualified	Wrong Stock Pulled	Part Lost/Missing	Material	Use for Testing	Cuffs	Contamination	Out of Sequence	Part Moved	Internal Transport	Poor Information	Crushing	Countersink	Off-set	Drawing	Tribal Knowledge	Rushing	Heat Treat	Cut Too Short	Mislabeled	Finish	LOA	Product Improvement	Wave/Twist in Tube	Instructions Incomplete/Unclear	Fit/Function	Misread	Substation	Process Improvement	Marks/Chatter	Drill Holes	Misaligned/off center	Turning Sequence	Past Expiry Date	Manufacturing Process					Misidentified	Past Due	OTHER:				<table><tr><td>Lead hand / Supervisor Approval Verification</td><td>QC / QA Coordinator Approval</td></tr><tr><td><u>B.E. 18-01-31</u> <u>S.E. 18-01-31</u></td><td><u>PD 18-01-31</u></td></tr></table>				Lead hand / Supervisor Approval Verification	QC / QA Coordinator Approval	<u>B.E. 18-01-31</u> <u>S.E. 18-01-31</u>	<u>PD 18-01-31</u>
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